



Algorithm for Treatment of Hypertension

Begin or Continue Lifestyle Modifications

Not at Goal Blood Pressure

Initial Drug Choices

Not at Goal Blood Pressure

No response or
troublesome side effects

Inadequate response
but well tolerated

**Substitute drug from
different class**

**Add agent from
different class**

Not at Goal Blood Pressure

**Continue adding agents from other classes.
Consider referral to a hypertension specialist.**

Algorithm for Treatment of Hypertension (continued)

Begin or Continue Lifestyle Modifications

- Lose weight
- Limit alcohol
- Increase physical activity
- Reduce sodium
- Maintain potassium
- Maintain calcium and magnesium
- Stop smoking
- Reduce saturated fat, cholesterol



Not at Goal Blood Pressure

Algorithm for Treatment of Hypertension (continued)

Begin or Continue Lifestyle Modifications



Not at Goal Blood Pressure (< 140/90 mm Hg)

Lower goals for patients with diabetes or renal disease



Initial Drug Choices

Algorithm for Treatment of Hypertension (continued)

Not at Goal Blood Pressure



Initial Drug Choices

Uncomplicated



Specific Indications



Compelling Indications



- Start at low dose and titrate upward.
- Low-dose combinations may be appropriate.



Not at Goal Blood Pressure

Algorithm for Treatment of Hypertension (continued)

Initial Drug Choices*



Uncomplicated

- Diuretics
- β -blockers

*Based on randomized controlled trials

Algorithm for Treatment of Hypertension (continued)

Initial Drug Choices*



Compelling Indications

- **Heart failure**
 - ACE inhibitors
 - Diuretics
- **Myocardial infarction**
 - β -blockers (non-ISA)
 - ACE inhibitors (with systolic dysfunction)
- **Diabetes mellitus (type 1) with proteinuria**
 - ACE inhibitors
- **Isolated systolic hypertension (older persons)**
 - Diuretics preferred
 - Long-acting dihydropyridine calcium antagonists

*Based on randomized controlled trials

Algorithm for Treatment of Hypertension (continued)

Initial Drug Choices



Specific indications for the following drugs:

- ACE inhibitors
- Angiotensin II receptor blockers
- α -blockers
- α - β -blockers
- β -blockers
- Calcium antagonists
- Diuretics

Specific Drug Indications

Some antihypertensive drugs may have favorable effects on comorbid conditions:

- **Angina**

- β -blockers
- Calcium antagonists

- **Atrial tachycardia and fibrillation**

- β -blockers
- Nondihydropyridine
- calcium antagonists

- **Heart failure**

- Carvedilol
- Losartan

- **Myocardial infarction**

- Diltiazem
- Verapamil

Specific Indications (continued)

Some antihypertensive drugs may have favorable effects on comorbid conditions:

- **Cyclosporine-induced hypertension**
 - Calcium antagonists
- **Diabetes mellitus (1 and 2) with proteinuria**
 - ACE inhibitors (preferred)
 - Calcium antagonists
- **Diabetes mellitus (type 2)**
 - Low-dose diuretics
- **Dyslipidemia**
 - α -blockers
- **Prostatism (benign prostatic hyperplasia)**
 - α -blockers
- **Renal insufficiency (caution in renovascular hypertension and creatinine > 3 mg/dL [$> 265.2 \mu\text{mol/L}$])**
 - ACE inhibitors

Specific Indications (continued)

Some antihypertensive drugs may have favorable effects on comorbid conditions:

- **Essential tremor**
 - Noncardioselective β -blockers
- **Hyperthyroidism**
 - β -blockers
- **Migraine**
 - Noncardioselective β -blockers
 - Nondihydropyridine calcium antagonists
- **Osteoporosis**
 - Thiazides
- **Perioperative hypertension**
 - β -blockers

Algorithm for Treatment of Hypertension (continued)

Initial Drug Choices

Not at Goal Blood Pressure (< 140/90 mm Hg)

No response or
troublesome side effects

Substitute another drug
from different class

Inadequate response
but well tolerated

Add second agent from
different class (diuretic if
not already used)

Not at Goal Blood Pressure (<140/90 mmHg)

Algorithm for Treatment of Hypertension (continued)

Substitute drug from
different class

Add second agent from
different class

Not at Goal Blood Pressure (< 140/90 mm Hg)

**Continue adding agents from other classes.
Consider referral to a hypertension specialist.**